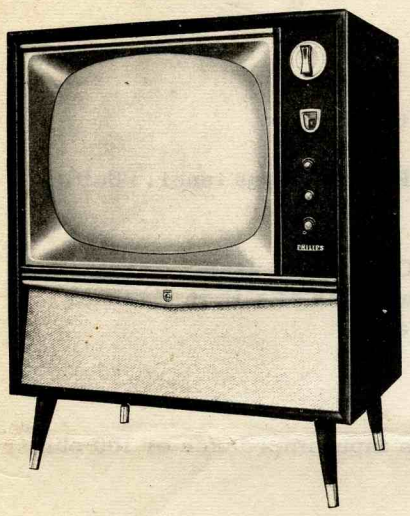
SERVICE DATA

TELEVISION RECEIVERS

MODELS 3731 - 7731
3732 7732 3733



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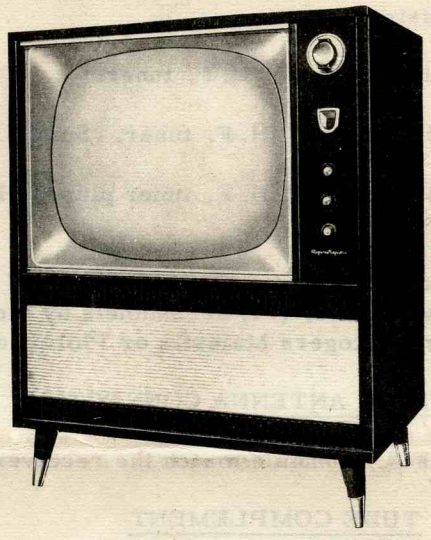

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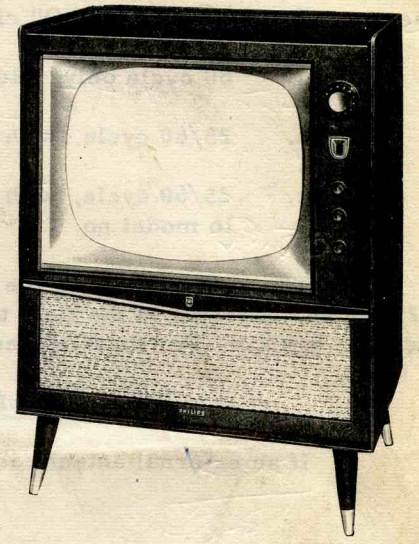

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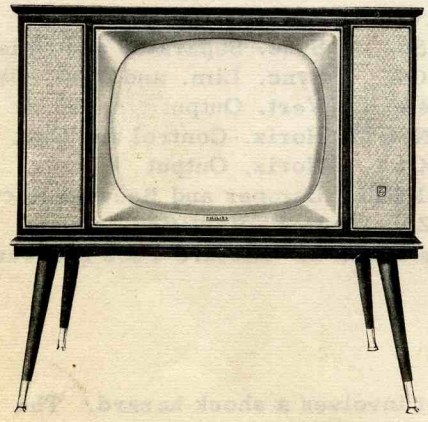

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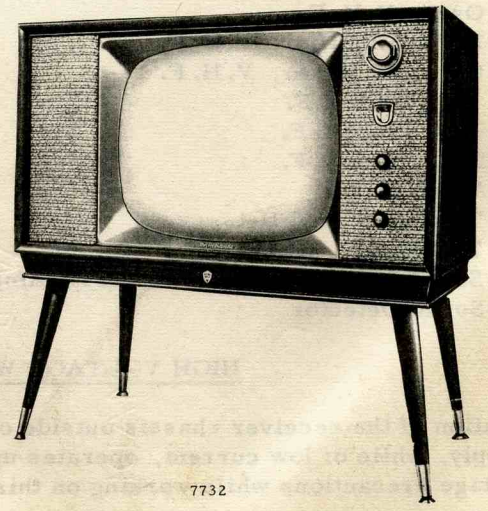


7732

PHILIPS ROGERS MAJESTIC

COMPILED AND PUBLISHED BY

PHILIPS INDUSTRIES LIMITED

TORONTO - MONTREAL - WINNIPEG

HALIFAX - VANCOUVER

GENERAL INFORMATION

All models use the "O" chassis with a 21" 90° spherical faced, aluminized picture tube.

The receiver has a power transformer and uses the new silicon type rectifiers.

There are 20 tubes (6 being dual purpose) and 2 crystal diodes. Those models having U. H. F. have 21 tubes and 3 crystal diodes.

The chassis uses an improved A. G. C. circuitry, eliminating the need for a fringe switch.

All Models have a phonograph attachment.

All models have a tuning indicator, the adjustment of which can be made from the front of the cabinet.

There are 3 versions of the "O" chassis:

a. 60 cycle only, with 12 position V. H. F. tuner.

b. 25/60 cycle, with 13 position V. H. F. tuner. Suffix-2 to model no.

c. 25/60 cycle, with 13 position V. H. F. tuner plus U. H. F. continuous tuner. Suffix-4 to model no.

The suffix following the model no. refers to the version of "O" chassis used. Version b. (-2) can be converted in the field to version c. (-4) 82 channels by the addition of a U. H. F. tuner and gear box kit. For details, see your Rogers Majestic or Philips dealer.

TELEVISION ANTENNA CONNECTION

If an external antenna is used, it should match the receiver's input impedance of 300 ohms.

TUBE COMPLEMENT

VA	6AF4A	Osc., U. H. F.	V11	6W6GT	Audio Output
V1	6BZ7	R. F. Amplifier, V. H. F.	V12	6AV6	A. G. C. Delay
V2	6X8	Osc. and Mixer, V. H. F.	V13	6CS6	Sync. Separator and Noise Gate
V3	6CB6	1st. Video I. F.	V14	6CG7	Sync. Lim. and Vert. Osc.
V4	6CB6	2nd. Video I. F.	V15	6S4A	Vert. Output
V5	6CB6	3rd. Video I. F.	V16	6SN7GTB	Horiz. Control and Osc.
V6	12BY7A	Video Output	V17	6DQ6A	Horiz. Output
V7	6AM8	T. I. Amp. and Det.	V18	6AX4GT	Damper and Booster Rect.
V8	6BR5	Tuning-Indicator	V19	1S2A	H. V. Rectifier
V9	6U8	Sound I. F. Amp. and Phono Pre-Amp	V20	See Block 21" Picture Tube Diagram	
V10	6DT6	Sound Detector			

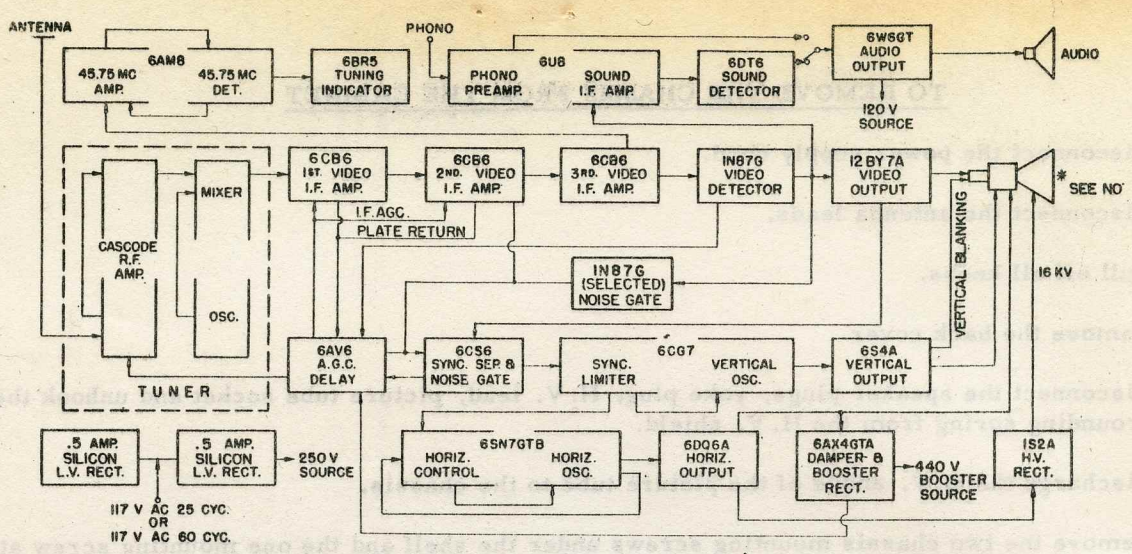
HIGH VOLTAGE WARNING

Operation of the receiver chassis outside of the cabinet involves a shock hazard. The high voltage supply, while of low current, operates up to 18,000 volts potential. Exercise all normal high voltage precautions while working on this equipment.

PICTURE TUBE WARNING

The picture tube envelope encloses a high vacuum and with the large surface area of glass involved, the stresses created are considerable. Any accidental blow or rough handling may cause the tube to implode with extreme violence. The picture tube should be handled only by qualified persons protected by heavy gloves and shatterproof goggles.

Always handle the picture tube by the front rim, never by the neck. Always set the picture tube face down on a thick soft paper or cloth.



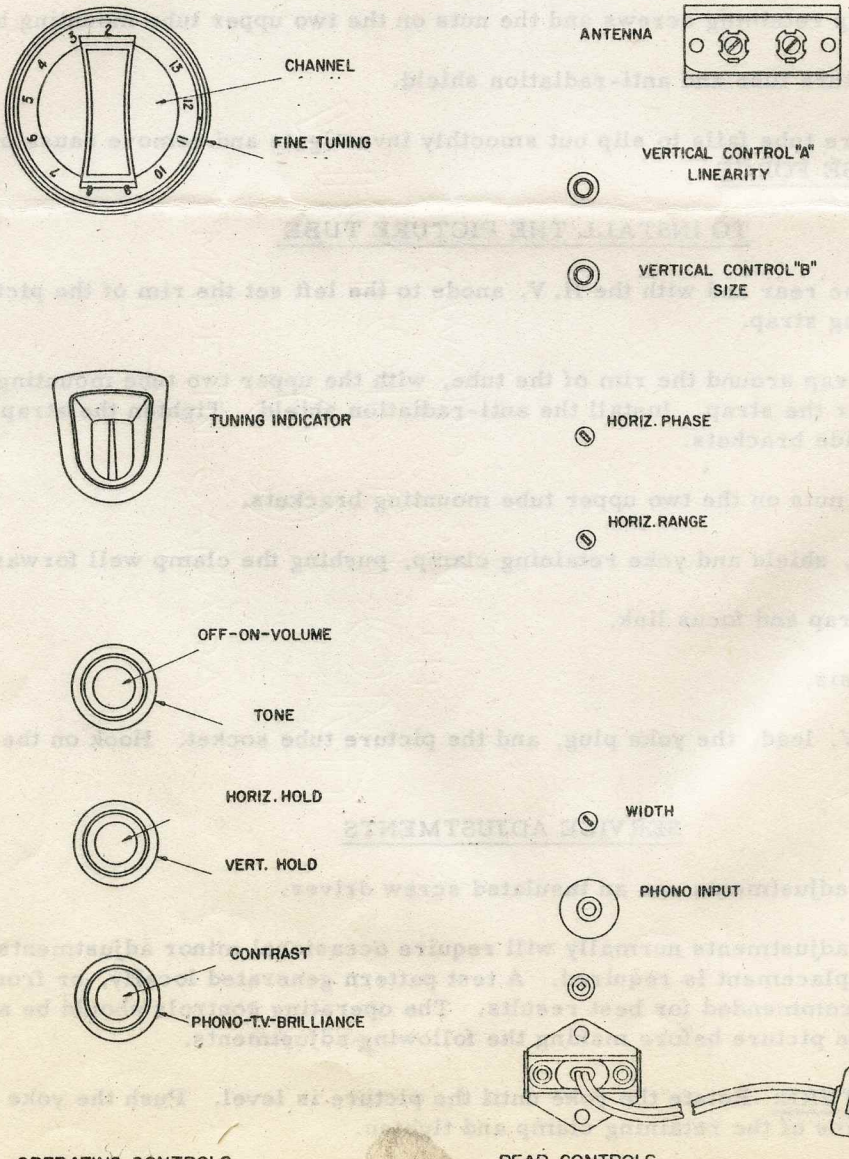
* NOTE: 1. VARIOUS VERSIONS OF THESE MODELS USE C.R.T. TYPES, 21ALP4A OR 21ATP4A OR 21ATP4 OR 21CMP4 OR 21CBP4A.

2. IMPORTANT: REPLACE 21ALP4A, 21ATP4A, 21ATP4 WITH 21ALP4A OR 21ATP4A OR 21ATP4 OR 21CMP4 OR 21CBP4A.

REPLACE 21CMP4 WITH 21CMP4 OR 21CBP4A.

REPLACE 21CBP4A WITH 21CBP4A ONLY.

3. IF REPLACEMENT IS MADE WITH 21CBP4A REMOVE THE ION TRAP.



OPERATING CONTROLS

REAR CONTROLS

TO REMOVE THE CHASSIS FROM THE CABINET

1. Disconnect the power supply cord.
2. Disconnect the antenna leads.
3. Pull off all knobs.
4. Remove the back cover
5. Disconnect the speaker plugs, yoke plug, H. V. lead, picture tube socket and unhook the grounding spring from the H. V. shield.
6. Discharge the H. V. anode of the picture tube to the chassis.
7. Remove the two chassis mounting screws under the shelf and the one mounting screw at the top, rear. Slide the chassis out of the cabinet.

TO REMOVE THE PICTURE TUBE

1. Remove the chassis from the cabinet.
2. Remove the ion trap, deflection yoke shield, retaining clamp and the deflection yoke.
3. Loosen the strap retaining screws and the nuts on the two upper tube mounting brackets.
4. Remove the picture tube and anti-radiation shield.

CAUTION: If the picture tube fails to slip out smoothly investigate and remove cause of trouble. DO NOT USE FORCE.

TO INSTALL THE PICTURE TUBE

1. Looking from the rear and with the H. V. anode to the left set the rim of the picture tube on the supporting strap.
2. Place the top strap around the rim of the tube, with the upper two tube mounting brackets in position under the strap. Install the anti-radiation shield. Tighten the strap retaining screws in the side brackets.
3. Tighten the two nuts on the two upper tube mounting brackets.
4. Install the yoke, shield and yoke retaining clamp, pushing the clamp well forward.
5. Install the ion trap and focus link.
6. Install the chassis.
7. Connect the H. V. lead, the yoke plug, and the picture tube socket. Hook on the grounding spring.

SERVICE ADJUSTMENTS

For service adjustments use an insulated screw driver.

The service adjustments normally will require occasional minor adjustments if any circuit work or tube replacement is required. A test pattern generated locally, or from a television station is recommended for best results. The operating controls should be adjusted to give the best possible picture before making the following adjustments.

LEVELLING THE PICTURE: Rotate the yoke until the picture is level. Push the yoke tight against the picture tube by means of the retaining clamp and tighten.

CENTERING THE PICTURE: Adjust the two rings on the centering device until the picture is centered.

WIDTH: Adjust the WIDTH control so that the picture fills out the width of the screen.

VERTICAL CONTROLS: While centering the picture, adjust the VERTICAL LINEARITY to fill in the top of the picture and the VERTICAL SIZE to fill in the bottom of the picture.

BRILLIANCE: Adjust the ION TRAP for maximum brilliance and best focus. The BRILLIANCE control should be backed off to about 2/3 maximum brilliance when making this adjustment.

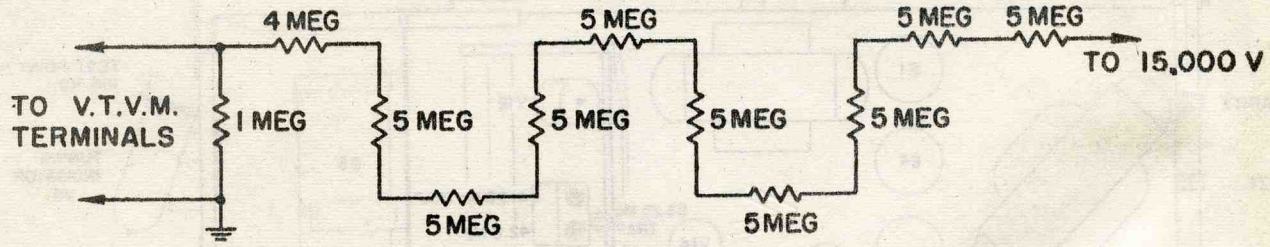
FOCUS: The FOCUS LINK on the base of the picture tube may be connected between pins 6 and 10, or 6 and 2. Normally it is connected between pins 6 and 10.

NOTE: The sequence of service adjustments outlined is suggested as a convenient method of approach. Variations of the procedure are permitted to obtain the final result, but always check the setting of the ion trap as the final adjustment.

HIGH VOLTAGE MEASUREMENT

DO NOT USE HAND-HELD FLEXIBLE TEST LEADS WHEN MAKING THE FOLLOWING MEASUREMENTS. KEEP THE HANDS CLEAR OF THE CIRCUIT DURING MEASUREMENT° A 12 TO 15 K. V. POTENTIAL EXISTS IN THIS CIRCUIT. EXERCISE ALL NORMAL HIGH VOLTAGE PRECAUTIONS.

To measure the H. V. anode potential, set the CONTRAST and BRILLIANCE controls at minimum. With the controls in this position, the resistance of the test circuit will simulate the load presented to the H. V. power supply by the picture tube. Connect a test circuit as shown. Make the resistor string self-supporting and allow adequate clearance between the resistors and chassis parts to prevent high-voltage breakdown. A meter scale of 0 to 500 volts, 20, 000 ohms per volt sensitivity or better, should be used. Observe the reading on the scale and multiply this by 50 to obtain the voltage across the circuit. As an example, if the V. T. V. M. reads 260 volts, the potential is 260 x 50 or 13, 000 volts.



CIRCUIT FEATURES AGC - AGC DELAY - NOISE GATE

The AGC voltage is derived from grid rectification of the Sync. Separator V13 (6CS6) which charges up C104 and is applied to the AGC network through R108 and R109.

The AGC delay voltage, developed by V12 (6AV6) decreases with increasing signal, through the action of the plate - screen current of V3 (6BC6), through the resistor R106.

A source of negative going noise from the Video Detector is applied to grid No. 1 of V13 through X2 and C108. This noise cuts the Sync. Separator off for the duration of the noise pulse, thereby preventing noise from appearing in the Sync. output and prevents C104 from charging up on noise.

The crystal diode, X2, blocks strong signals from cutting off the Sync. Separator as high bias is applied to X2, from the AGC line through R113.

On strong noise, when X2 is cut off by the bias applied through R113, negative going noise pulses are applied to grid No. 1 of V13 through C108.

POWER REQUIREMENTS

The total power consumption of the receiver is approximately 140 watts. Power economy is obatined by using the audio output tube as a stabilized voltage dropping impedance for the low voltage B+ supply.

CASCODE TUNER

The tuner embodies the latest developments in cascode circuits, and has a noise figure of only 5 to 9 db from the theoretical low limit. The R. F. amplifier tube should not be replaced with any other type than that originally used, and the tuner should be realigned when a new tube is installed.

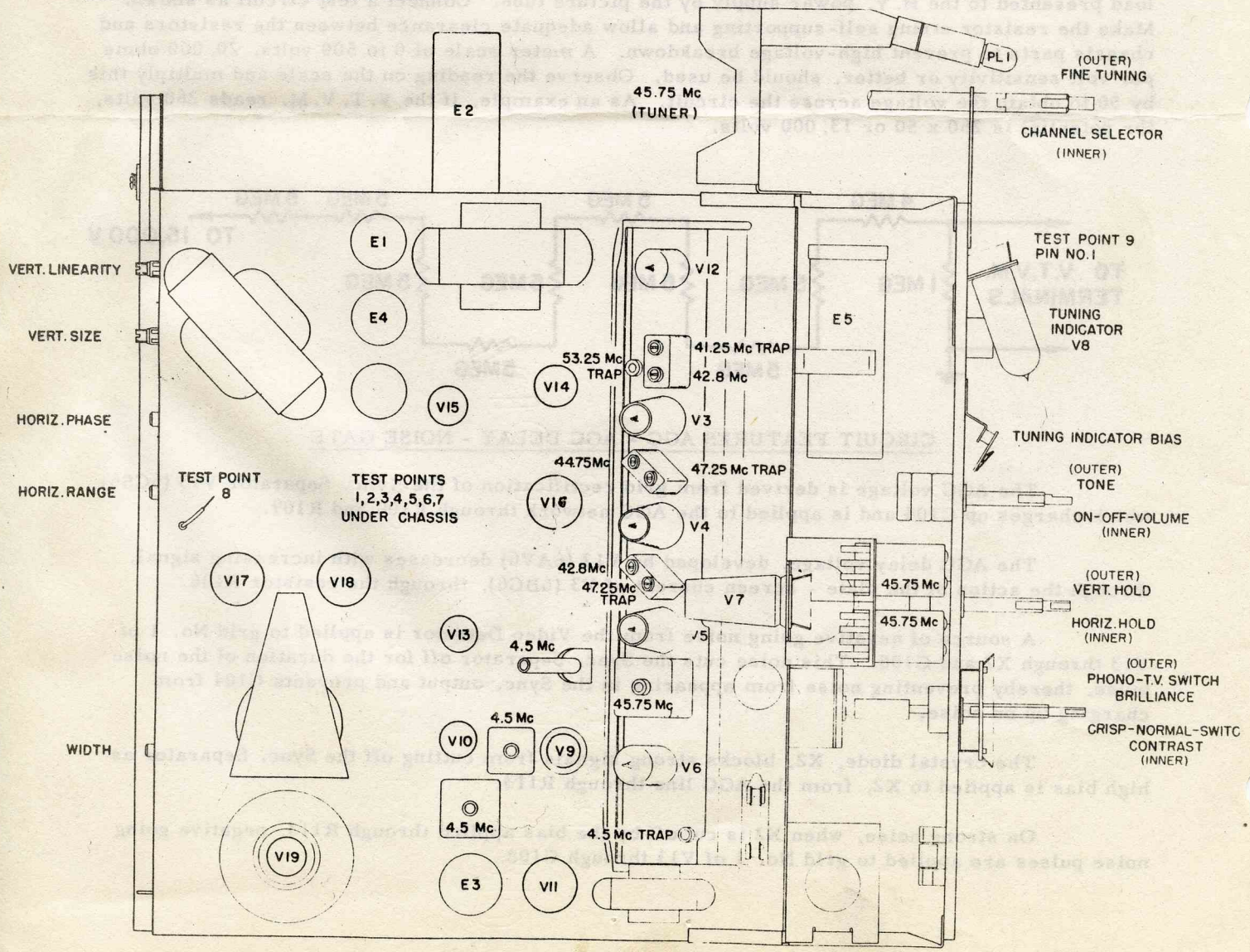
CENTERING DEVICE

The centering device consists of two magnetized rings which cancel each other when the tabs are separated 180°.

Bringing the tabs together increases the effective magnetism and the amount of the centering action. Rotating the two rings together (at a given spacing of the tabs) provides centering in the desired direction.

A NOTE REGARDING ELECTROSTATIC FOCUS PICTURE TUBES

Arcing in the gun structure of the electrostatic picture tubes is a common occurence during the first few hours of operation. This condition, which is believed to be due to the presence of dust particles and minor impurities within the gun structure, subsides as the arcing itself removes the cause of the breakdown



HORIZONTAL OSCILLATOR ALIGNMENT

If the HORIZONTAL HOLD control fails to restore synchronization, the HORIZONTAL RANGE adjustment should be reset.

1. Tune in a weak signal. (If a weak signal is not available, attenuate the signal to approximately 100 μV at the input.)

2. Turn the HORIZONTAL HOLD control to the extreme clockwise position.

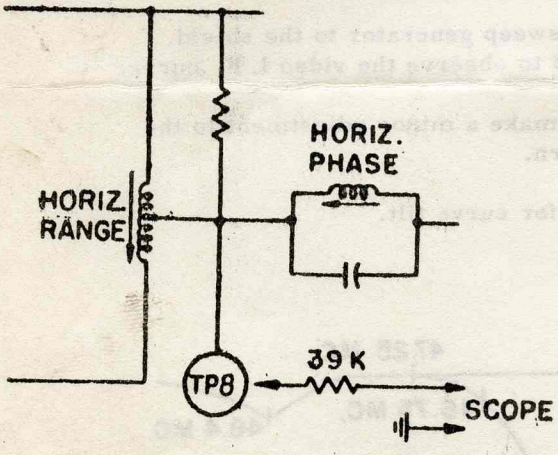
3. Turn the HORIZONTAL RANGE adjustment counterclockwise until the pattern falls out of synchronization. Turn the HORIZONTAL RANGE clockwise slowly until the pattern just falls into synchronization. Turn the HORIZONTAL RANGE clockwise one half turn.

4. Check the action of the HORIZONTAL HOLD control on all active channels. Repeat the above instructions, if necessary, to maintain stable synchronization.

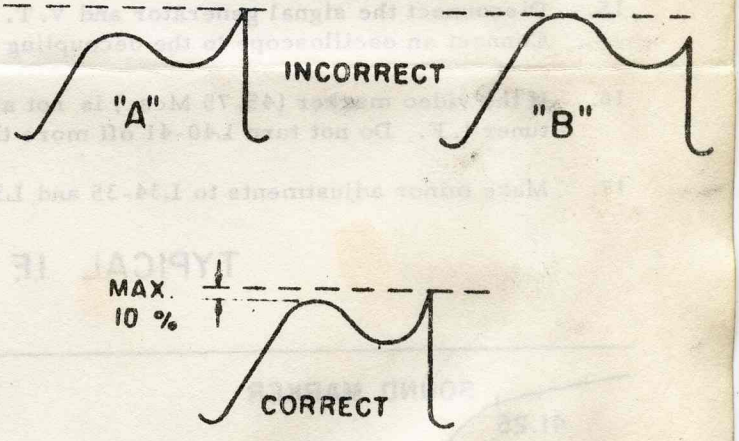
5. If this procedure fails to restore stable synchronization, connect an oscilloscope to TP-8 as shown below. Adjust the HORIZONTAL PHASE adjustment until the saw-tooth peak is equal to or slightly higher (not more than 10%) than the sine wave while maintaining the picture in synchronization with the HORIZONTAL RANGE adjustment.

6. Remove the oscilloscope and repeat steps 1 to 4.

OSCILLOSCOPE CONNECTION FOR HORIZ. PHASE ADJUSTMENT



HORIZ. PHASE ADJUSTMENT WAVEFORMS



This adjustment is very important for the correct operation of the circuit.

If the waveform is as in "A" the noise immunity is poor, the stabilizing effect of the tuned circuit is reduced and drift of the oscillator becomes more serious.

If the waveform is as in "B" the pull-in range is inadequate and the broad peak can cause double triggering of the oscillator when the Horizontal Hold control approaches the clockwise position.

VIDEO I. F. AND TUNING INDICATOR I. F. ALIGNMENT

1. Turn the CHANNEL SELECTOR to an unused channel, preferably channel 3.

2. Place a tight fitting shield over V2, the mixer tube, and connect the hot I. F. lead from a correctly terminated signal generator to the shield. The ground lead from the signal generator must be grounded to the chassis as near as possible to the mixer tube.

3. Apply a -2 volts bias to the I. F. AGC (TP1). Remove this bias when aligning the traps for minimum output.

4. Connect a decoupling network consisting of 10K resistor and a 1000 mmf capacitor between TP3 and chassis. Connect a DC V. T. V. M. across the capacitor.

5. Throughout the I. F. alignment, use just enough signal input to give -2 volts DC output. If more than one peak is found on any tuned circuit, use the one with the slug furthest out of the coil.

6. Adjust L31 for minimum output at 53. 25 Mcs.

7. Adjust Tuner I. F. and L40-41 for maximum output at 45. 75 Mcs.

8. Adjust L33 and L37-38 for maximum output at 42. 8 Mcs.

9. Adjust L34-35 for maximum output at 44. 75 Mcs.

10. Adjust L36 and L39 for minimum output at 47. 25 Mcs.

11. Adjust L32 for minimum output at 41. 25 Mcs.

12. Repeat steps 6 to 11, if necessary.

13. Connect the V. T. V. M. (+10 volt range) to TP-9.

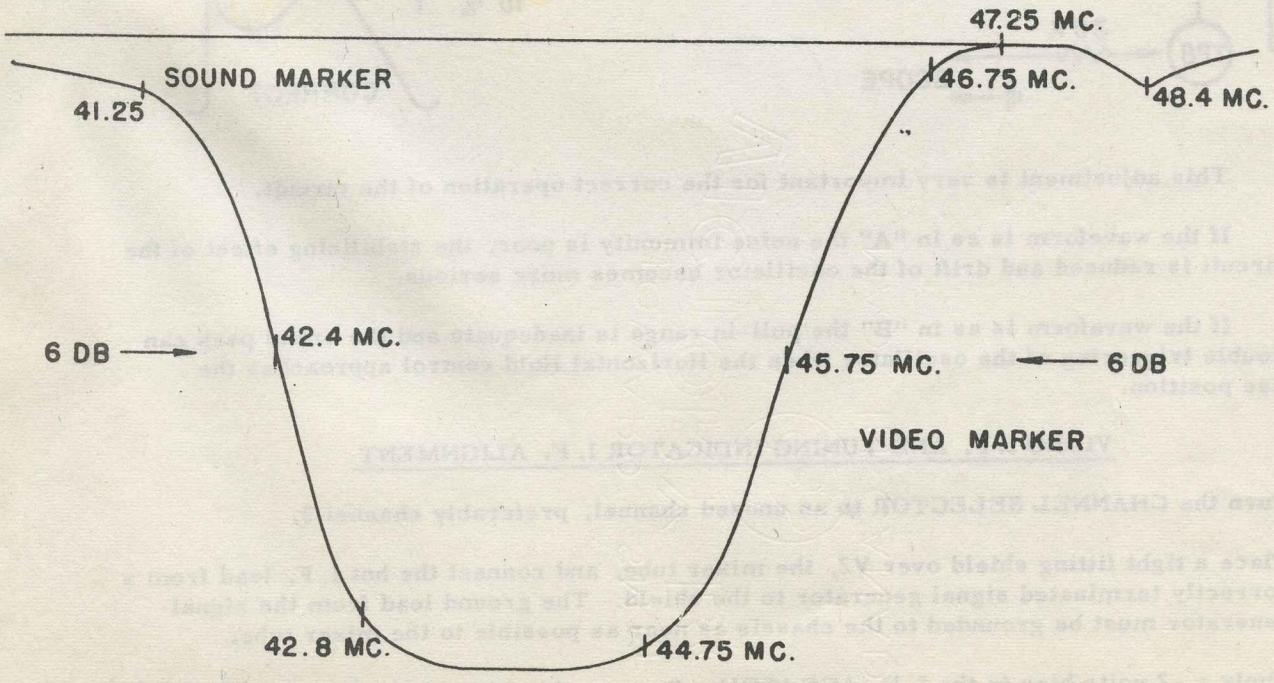
14. Adjust L52 and L53-54 for maximum output at 45. 75 Mcs., use just enough signal to give +6 volts DC output.

15. Disconnect the signal generator and V. T. V. M. connect a sweep generator to the shield. Connect an oscilloscope to the decoupling network on TP-3 to observe the video I. F. curve.

16. If the video marker (45. 75 Mcs.) is not at the 6 db point, make a minor adjustment to the tuner I. F. Do not turn L40-41 off more than a 1/4 of a turn.

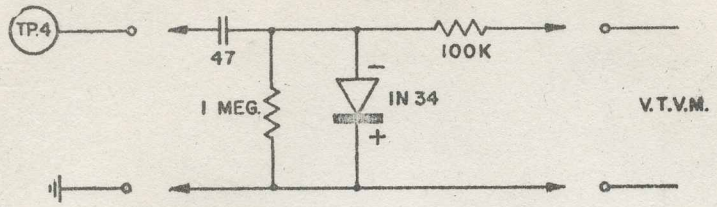
17. Make minor adjustments to L34-35 and L37-38 to correct for curve tilt.

TYPICAL I.F. CURVE



4.5 Mc. TRAP ALIGNMENT

1. Apply a -4.5 volts bias to the I.F. AGC TP1.
2. Connect a 4.5 Mc. signal to the grid of the video amplifier TP3.
3. Connect a crystal detector circuit and a DC V.T.V.M. as shown in the 4.5 Mc. Trap Alignment test Circuit, to the picture tube cathode TP4.
4. Turn the CONTRAST control full clockwise.
5. Adjust the 4.5 Mc. trap L46-47 for minimum output on the V.T.V.M.



4.5 MC TRAP ALIGNMENT TEST CIRCUIT

SOUND I.F. ALIGNMENT

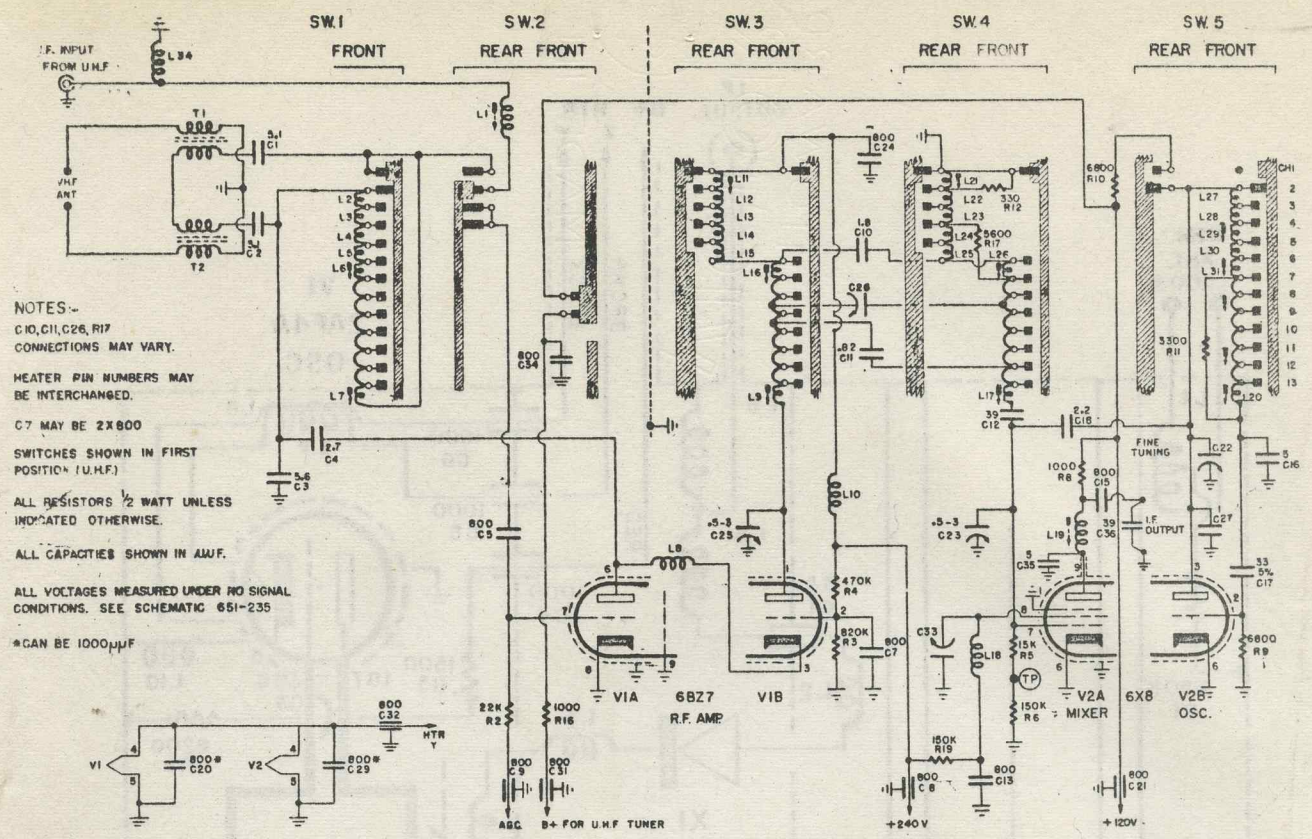
The terms CLOCKWISE and COUNTERCLOCKWISE in the following procedure refer to the direction of rotation as observed from the TOP OF THE CHASSIS.

1. Turn the VOLUME control to minimum.
2. Connect a 4.5 Mc. generator 2000 C.P.S. 25 Kc deviation F.M. and 400 cycles 50% AM. to TP5.
3. Connect a V.T.V.M. to TP6 (-10 volt range).
4. Connect an oscilloscope to TP7. Synchronize the oscilloscope to show several cycles of the 400 C.P.S. wave form.
5. Turn the QUADRATURE (L74) slug full out (to the top of the can).
6. With 500 M.V. output from the generator, adjust the QUADRATURE slug for maximum reading on the V.T.V.M.
7. Turn the QUADRATURE slug CLOCKWISE (increase inductance) to a point just beyond maximum scope deflection where optimum symmetry and maximum A.M. rejection will appear on the oscilloscope.
8. Reduce the generator output to 20 mV r.m.s. and switch off the 400 c.p.s. A.M.
9. Adjust the INTERSTAGE (L72-73) slug for maximum V.T.V.M. reading.
10. Connect the generator to TP3.
11. Adjust the SOUND TAKE-OFF (L71) slug for maximum V.T.V.M. reading.

ALTERNATIVE METHOD: With a T.V. signal applied to the antenna terminals adjust L74, L72-L73 and L71 for maximum output and minimum noise.

TUNING INDICATOR BIAS ADJUSTMENT

1. Fine tune a signal on any channel.
2. Adjust the TUNING INDICATOR BIAS, R63 and FINE TUNING, until the Tuning Indicator closes to 1/8".



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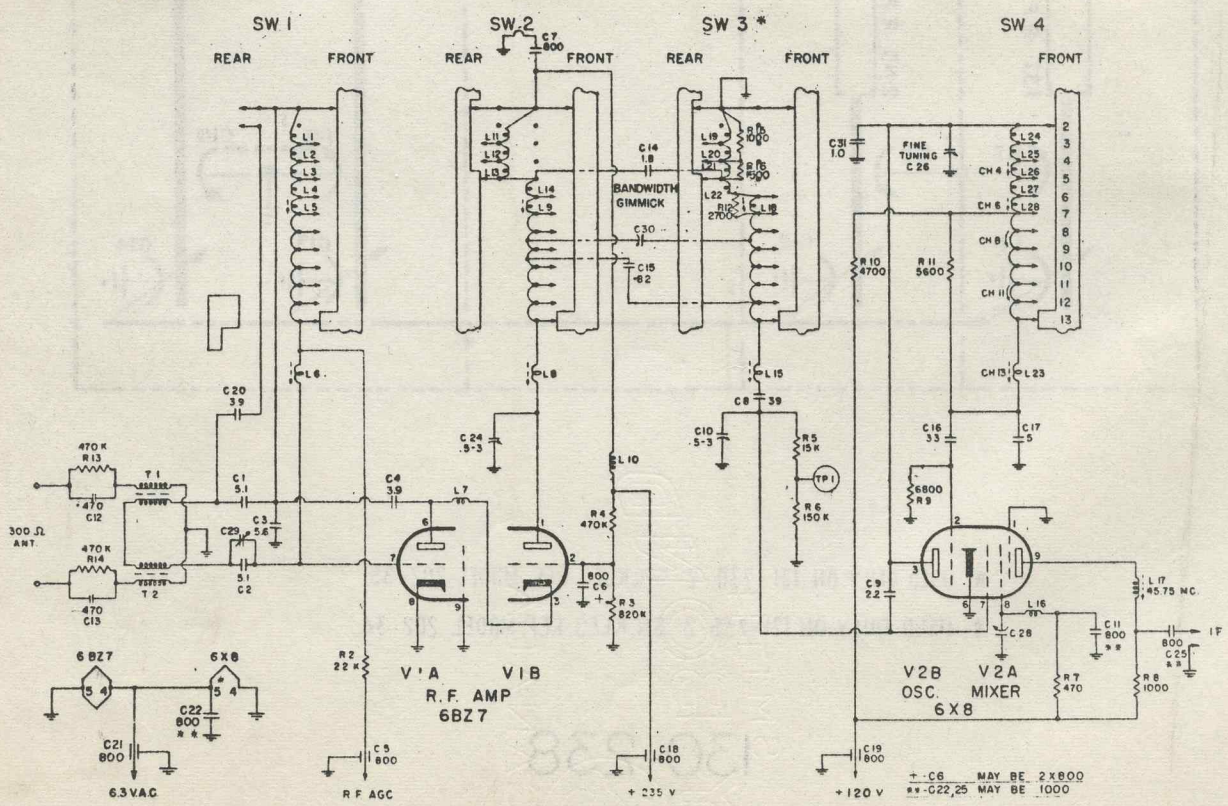

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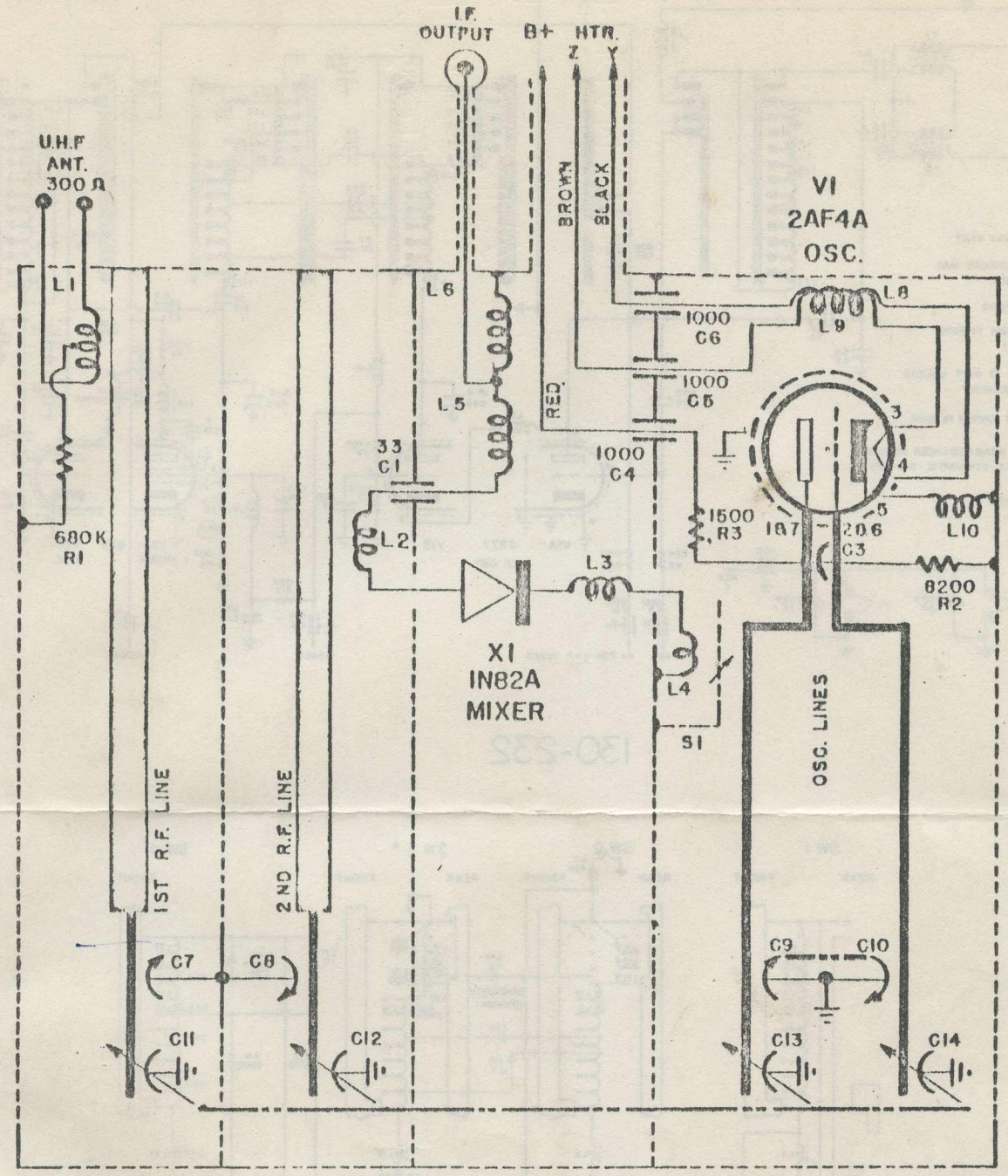


* USED ONLY ON 121-730-2 SICKLES REF. MODEL 202-35

† USED ONLY ON 121-735-2 SICKLES REF. MODEL 202-34.

130-238

REPLACEMENT PARTS

For dependable repairs use only genuine Rogers-Majestic or Philips replacement parts. When ordering, always give part no., value, description and model of receiver.

RESISTORS (FIXED)

SCHEMATIC NO.	PART NO.	OHMS	%	WATTS	DESCRIPTION
R31, 118	500-925	1000	10	1/4	
R32	500-919	330	10	1/4	
R33, 44	500-933	4700	10	1/4	
R34, 37	500-909	47	10	1/4	
R35, 38, 145	500-937	10 K	10	1/4	
R36, 39	500-913	100	10	1/4	
R40, 71	500-915	150	10	1/4	
R41	501-601	10	10	1/2	
R42, 116	503-336	8200	10	2	
R43, 45, 49	501-848	1 meg	20	1/2	Part of 070-318, 070-343, 070-320
R46, 62, 79, 88, 108, 143	500-961	1 meg	10	1/4	
R47, 61, 64, 114, 175	500-957	470 K	10	1/4	
R48, 66	500-910	56	10	1/4	
R50	502-031	10 K	10	1	Part of 070-342
R51	504-071	8200	10	7	
R52	503-325	1000	10	2	
R54, 74, 121, 122	500-929	2200	10	1/4	
R55	501-857	15 K	10	1/2	Part of 070-368
R57, 117	500-956	390 K	10	1/4	
R65, 119, 164, 173	500-945	47 K	10	1/4	
R72, 167	500-932	3900	10	1/4	
R73	500-921	470	10	1/4	Part of 060-342
R75	500-922	560	10	1/4	
R76, 87, 58, 60	500-954	270 K	10	1/4	
R77, 168	500-951	150 K	10	1/4	
R78, 172	500-958	560 K	10	1/4	
R80	500-943	33 K	10	1/4	
R82	501-856	910 K	5	1/2	
R83	501-361	1 meg	5	1/2	
R84	503-338	12 K	10	2	
R85	502-615	150	10	1	
R89	500-931	3300	10	1/4	
R90	501-654	270 K	10	1/2	
R101, 104	502-033	15 meg	5	1	
R102, 148, 161, 169	500-955	330 K	10	1/4	
R103, 109, 111, 113	500-952	180 K	10	1/4	
R105	502-676	18 meg	10	1	
R106	502-620	390	10	1	
R107, 115	500-939	15 K	10	1/4	
R110, 112	500-953	220 K	10	1/4	
R120	500-934	5600	10	1/4	
R123	501-668	3.9 meg	10	1/2	
R141, 162	500-960	820 K	10	1/4	
R146	500-965	2.2 meg	10	1/4	
R149, 150	501-621	470	10	1/2	Part of 060-340
R163	500-948	82 K	10	1/4	
R166, 59	500-947	68 K	10	1/4	
R170	500-936	8200	10	1/4	
R171	500-969	4.7 meg	10	1/4	
R174	500-959	680 K	10	1/4	
R176	500-911	68	10	1/4	
R177, 179	504-068	5600	10	4	
R178	504-073	6800	10	7	
R180	502-625	1000	10	1	
R181	501-656	390 K	10	1/2	
R182	501-660	820 K	10	1/2	
R183	500-727	.47	10	1/3	
R184	502-631	3300	10	1	
R201	502-654	270 K	10	1	

RESISTORS (VARIABLE)

R53	505-130	15 K	20	1	Contrast
R56	505-109	50 K	20	1/3	Brilliance
R63	505-119	10 K			T.I. Bias
R81	506-063	1 meg	30	1/4	Volume
R86		500 K	30	1/4	Tone
R142	506-048	1 meg	30	1/4	Vertical Hold
R144	505-105	2.5 meg	30	1/4	Vertical Size
R147	505-104	5000	20	1/2	Vertical Linearity
R165		50 K	20	1/3	Horizontal Hold

CAPACITORS (MINIATURE MOULDED)

SCHEMATIC NO.	PART NO.	μμf	%	VOLTS	DESCRIPTION
C41	512-338	4.7	10	500	Part of 060-304
C71	512-380	2.2	20	500	

CAPACITORS (CERAMIC TUBE)

C31	514-830	39	5	500	
C32	514-084	10	5	500	
C33, 36, 38, 55, 105	514-828	27	5	500	
C34, 35, 37, 39, 40, 50 51, 52, 53	514-380	1500	20	350	
C47	514-550	2.7	20	500	
C48	514-833	68	5	500	
C49	514-831	47	5	500	
C56, 163, 170	514-518	82	10	500	
C72	514-026	47	5	500	
C80	514-938	18	5	500	Part of 070-378
C89	514-121	270	10	500	
C103	514-123	390	10	500	
C106	514-515	47	10	500	
C161	514-117	120	10	500	
C162	514-119	180	10	500	

CAPACITOR (CERAMIC DISC)

C44	514-731	3300	10	500	
C54, 73, 74, 75, 76, 77 104, 108, 112	514-012	10 K	G.M.V.	500	
C78, 83, 88	514-011	5000	G.M.V.	500	
C81	514-725	1000	10	500	
C109	514-925	20 K	G.M.V.	500	
C141, 175	514-952	470	10	500	
C172	514-775	1000	20	500	
C178	514-948	390	10	2000	
C179	514-062	68	10	4000	
C201	514-080	10 K	G.M.V.	1400	
C208	514-077	2000	G.M.V.	500	

CAPACITOR (TUBULAR)

SCHEMATIC NO.	PART NO.	μf	%	VOLTS	DESCRIPTION
C42	515-475	.1	20	200	
C46	515-525	.1	20	400	
C79, 164, 165, 173	515-321	.047	20	400	
C82	515-513	.01	20	400	
C86	515-557	.0033	+40-20	600	
C87	515-523	.068	20	400	
C101	515-485	.68	+20-10	200	
C102	515-271	.047	20	125	
C107, 167	515-283	.47	20	125	
C110	515-325	.1	20	400	
C142	515-042	.01	10	400	
C143, 144	517-421	.047	10	400	
C146	515-552	.0012	+40-20	600	
C147	515-519	.033	20	400	
C166	515-317	.022	20	400	
C169	515-019	.01	10	600	
C176	515-369	.033	20	600	
C177	515-372	.056	20	600	

CAPACITORS (SILVER MICA)

SCHEMATIC NO.	PART NO.	μμf	%	VOLTS	DESCRIPTION
C43	701-163	1200	10	500	
C168	701-147	270	10	500	
C171	701-159	820	10	500	

CAPACITOR (ELECTROLYTIC)

SCHEMATIC NO.	PART NO.	μf	%	VOLTS	DESCRIPTION
C45		10	350		
C84		40	150		
C85		50	150		
C111	516-066	3.2	70		
C145		60	50		
C174	516-605	10	500		
C202, 205	516-582	175	200		
C203		175	200		
C204	516-587	120	350		
C206	516-585	175	200		
C207		100	350		

COUPLATES

PC104	519-506	Vertical Integrator

INDUCTORS

SCHEMATIC NO.	PART NO.	DESCRIPTION
L31	060-305	Coil, 53.25 Mc. Trap
C32, 33	060-270	Transformer, 1st. I.F. and Trap
L34, 35, 36, 37, 38, 39	060-271	Transformer, 2nd. and 3rd. I.F. and Trap
L40, 41, 42, 43	060-304	Transformer, 4th. I.F.
L44	070-318	Coil, Video Peaking-Yellow
L45	070-343	Coil, Video Peaking
L46, 47	070-377	Coil, 4.5 Mc. Trap
L48	070-320	Coil, Video Peaking-Blue
L49	070-342	Coil, Video Peaking-Blue
L50	070-368	Coil, Video Peaking-White
L51	070-366	Choke, Tweet, Filter
L52	050-289	Coil, T.I. Take off 45.75 Mc.
L53, 54	050-288	Transformer, T.I. Inter. 45.75 Mc.
L71	060-295	Coil, Sound Take-Off
L72, 73	060-342	Transformer, Sound I.F.
L74	070-378	Coil, Quadrature
L75, 76	050-326	Transformer, Audio Output
L141, 142	050-247	Transformer, Vertical Oscillator
L161, 162	060-313	Coil, Horizontal Range
L163	060-312	Coil, Horizontal Phase
L164	070-279	Choke, Tweet, Small
L165	060-311	Coil, Width
L166, 167, 168, 169	050-286	Transformer, Horizontal Output
L201, 202, 203, 204	050-331	Transformer, Power 60 cy.
L201, 202, 203, 204	050-332	Transformer, Power 25 cy.
L205	050-327	Choke, Filter 25 cy.
L205	050-328	Choke, Filter 60 cy.

CRYSTAL DIODES, LAMP PILOT AND RECTIFIERS

X1	642-028	1N87G Crystal Diode, Part of 060-304
X2	642-048	1N87G Crystal Diode, Selected
X3, 4	642-055	Rectifier, Silicon, M500
PL1	643-002	Lamp, Pilot 6-8V . 15 Amp.

MISCELLANEOUS PARTS

PART NO.	DESCRIPTION
041-219	Speaker 5")
041-224	Speaker 8") (Model 3733
041-230	Speaker 8" (Model 3731 and 7731)
041-231	Speaker 5 3/4" (Model 3732 and 7732)
060-340	Yoke, Deflection and Plug
080-206	Switch, Wafer (Phono-TV)
110-610	Strap, Upper, 21" Picture Tube Mounting
110-611	Strap, Lower, 21" Picture Tube Mounting
110-618	Can, for 4th. I.F. (060-304)
110-656	Shield, High Voltage
121-655	Shield, Anti-Radiation 21"
121-742	Shield, Deflection Yoke
121-757	Shield, C.R.T. Neck, Cardboard (Use on Model 3731, 7731 and 7732 with C.R.T. 21CBP4A) (Use on Model 3732 with C.R.T. 21CMP4)
121-758	Shield, C.R.T. Neck, Cardboard (Use on Model 3731, 7731 and 7732 with C.R.T. 21CMP4)
121-759	Shield, C.R.T. Neck, Cardboard (Use on Model 3732 with C.R.T. 21CBP4A)
121-768	Shield, C.R.T. Neck, Cardboard (Use on Model 3733 with C.R.T. 21CMP4)
121-769	Shield, C.R.T. Neck, Cardboard (Use on Model 3733 with C.R.T. 21CBP4A)
130-140	Magnet, Ion Trap, 40 Gauss
130-152	Magnet, Centering Device
130-232	Tuner, V.H.F. Switchtype (12 position)
130-234	Tuner, V.H.F. Switchtype (13 position)
130-238	Tuner, U.H.F.
301-874	Connector, Focus Link
303-505	Panel, Contrast Control Mounting
303-556	Panel, Tuner Shaft Support
303-564	Panel, Control Mounting
310-450	Spring, Anti-Radiation Shield Grounding
325-145	Clamp, Deflection Yoke Retaining
332-818	Disc., Indicator U.H.F.
570-001	Socket, Octal
570-018	Socket, 7 Pin, 8 Lugs, Centre Shield
570-041	Socket, 9 Pin, 10 Lugs, Centre Shield
570-043	Socket, 9 Pin, 10 Lugs
570-057	Socket, H.V. Rectifier
570-059	Socket, 9 Pin, Moulded
571-096	Panel, Antenna
571-272	Plug, Male (Interlock)
571-281	Holder, Fuse
572-389	Knob, Horizontal Hold/Volume, On-Off/Contrast
572-390	Knob, Vertical Hold/Brilliance/Tone
572-465	Knob, Channel Selector (Philips with U.H.F. Prism.)
572-466	Knob, Fine Tuning
572-481	Knob, Channel Selector (Philips)
572-482	Knob, Channel Selector (Rogers)
572-483	Knob, Channel Selector (Rogers with U.H.F. Prism.)
621-594	Pad, Rubber (Picture Tube Cushion)
632-124	Grommet, Plastic No. 8
632-128	Insert, Plastic Moulded (Chassis Mounting)
632-129	Washer, Plastic Moulded (Chassis Mounting)
646-026	Fuse, 3AG 1.5 amp. Slo-Blo

CABINET PARTS

MODELS 3731-7731 (21" CONSOLE)

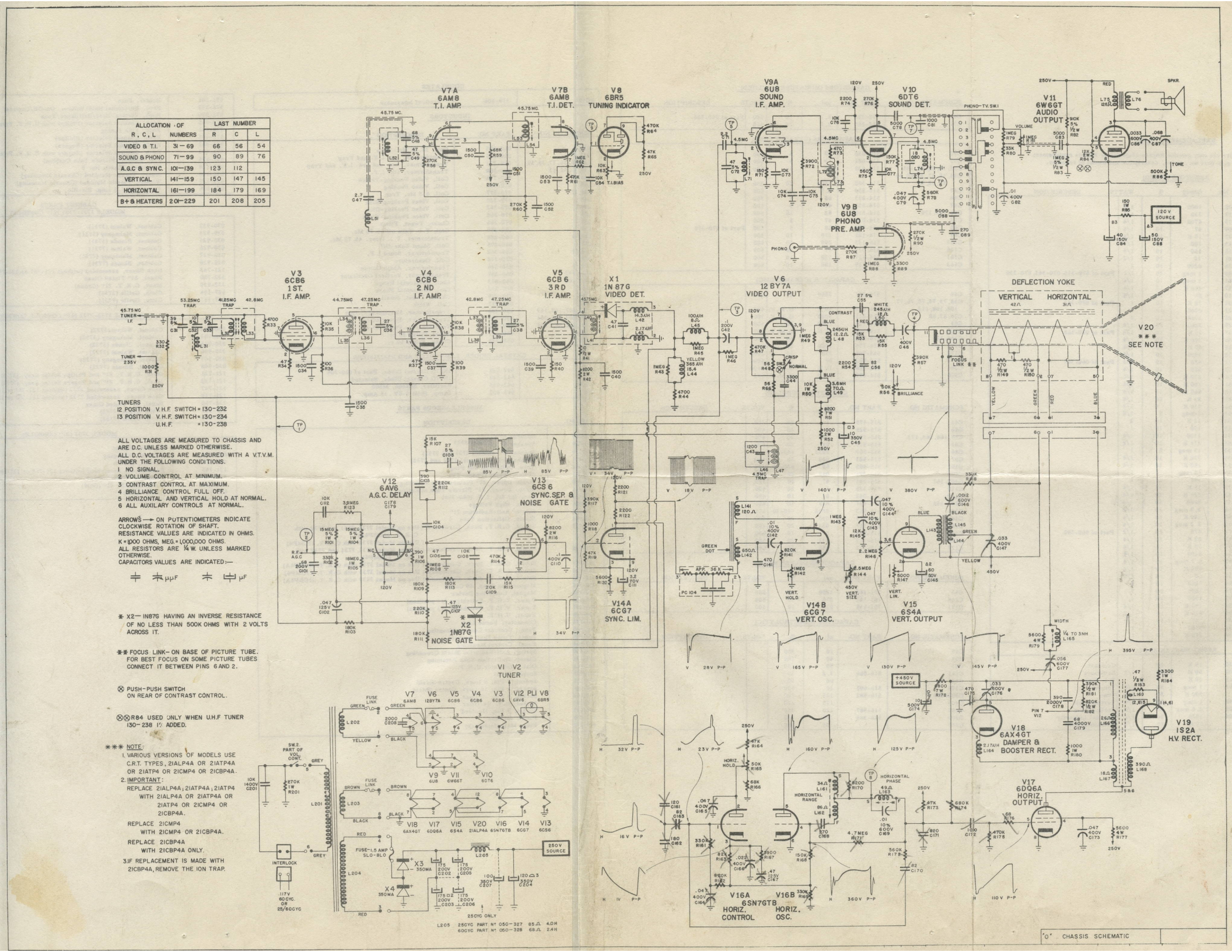
030-922	Cabinet, Walnut (3731)
030-923	Cabinet, Mahogany (3731)
030-924	Cabinet, Blonde (3731)
030-926	Cabinet, Walnut (7731)
030-927	Cabinet, Mahogany (7731)
030-928	Cabinet, Blonde (7731)
121-743	Back Cover, assembled (without 121-757 or 121-758)
332-780	Panel, 21" Tinted Glass
332-830	Mask, C.R.T. 21" (Green)
627-156	Cloth, Grille (3731)
627-157	Cloth, Grille (7731)

MODELS 3732-7732 (21" CONSOLE LOWBOY)

030-942	Cabinet, Walnut (3732)
030-943	Cabinet, Mahogany (3732)
030-944	Cabinet, Blonde (3732)
030-946	Cabinet, Walnut (7732)
030-947	Cabinet, Mahogany (7732)
030-948	Cabinet, Blonde (7732)
121-721	Mask, C.R.T. 21" and Philips Script Assy. (3732)
121-722	Mask, C.R.T. 21" and Rogers Script Assy. (7732)
121-747	Back Cover, assembled 3732 (without 121-757 or 121-759)
121-748	Back Cover, assembled 7732 (without 121-757 or 121-758)
332-780	Panel, 21" Tinted Glass
627-161	Cloth, Grille (7732)
627-169	Cloth, Grille (3732)

MODEL 3733 (21" CONSOLE)

030-992	Cabinet, Walnut
030-993	Cabinet, Mahogany
030-994	Cabinet, Blonde
121-745	Back Cover, assembled (without 121-768 or 121-769)
332-780	Panel, 21" Tinted Glass
332-828	Mask, C.R.T. 21" (Gold)
627-159	Cloth, Grille



ALLOCATION OF R, C, L NUMBERS		LAST NUMBER R	C	L
VIDEO & T.I.	31—69	66	56	54
SOUND & PHONO	71—99	90	89	76
A.G.C & SYNC.	101—139	123	112	
VERTICAL	141—159	150	147	145
HORIZONTAL	161—199	184	179	169
B+ & HEATERS	201—229	201	208	205

TUNERS
12 POSITION V.H.F. SWITCH = 130-232
13 POSITION V.H.F. SWITCH = 130-234
U.H.F. = 130-238

ALL VOLTAGES ARE MEASURED TO CHASSIS AND ARE D.C. UNLESS MARKED OTHERWISE.
ALL D.C. VOLTAGES ARE MEASURED WITH A V.T.V.M. UNDER THE FOLLOWING CONDITIONS.
1 NO SIGNAL.
2 VOLUME CONTROL AT MINIMUM.
3 CONTRAST CONTROL AT MAXIMUM.
4 BRILLIANCE CONTROL FULL OFF.
5 HORIZONTAL AND VERTICAL HOLD AT NORMAL.
6 ALL AUXILARY CONTROLS AT NORMAL.

ARROWS → ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION OF SHAFT.
RESISTANCE VALUES ARE INDICATED IN OHMS.
K = 1000 OHMS, MEG. = 1,000,000 OHMS.
ALL RESISTORS ARE ¼ W. UNLESS MARKED OTHERWISE.
CAPACITORS VALUES ARE INDICATED:—

* X2— IN87G HAVING AN INVERSE RESISTANCE OF NO LESS THAN 500K OHMS WITH 2 VOLTS ACROSS IT.

** FOCUS LINK— ON BASE OF PICTURE TUBE. FOR BEST FOCUS ON SOME PICTURE TUBES CONNECT IT BETWEEN PINS 6 AND 2.

⊗ PUSH-PUSH SWITCH ON REAR OF CONTRAST CONTROL.

⊗⊗ R84 USED ONLY WHEN U.H.F TUNER 130-238 IS ADDED.

*** NOTE:
1. VARIOUS VERSIONS OF MODELS USE C.R.T. TYPES, 21ALP4A OR 21ATP4A OR 21ATP4 OR 21CMP4 OR 21CBP4A.
2. IMPORTANT:
REPLACE 21ALP4A; 21ATP4A; 21ATP4 WITH 21ALP4A OR 21ATP4A OR 21ATP4 OR 21CMP4 OR 21CBP4A.
REPLACE 21CMP4 WITH 21CMP4 OR 21CBP4A.
REPLACE 21CBP4A WITH 21CBP4A ONLY.
3. IF REPLACEMENT IS MADE WITH 21CBP4A, REMOVE THE ION TRAP.

"0" CHASSIS SCHEMATIC